

# ACHIEVEMENTS OF FARM MACHINERY TESTING AND TRAINING INSTITUTE

## 1) Test Status of Machines from 2013-14 to 2023-24:

One of the most significant achievements of the FMTTI lies in its extensive testing regimen. With a dedicated team of experts and state-of-the-art facilities, the center has rigorously evaluated a vast array of farm machinery, ranging from tractors and harvesters to plows and seeders. The cumulative number of machines tested to date serves as a testament to the FMTTI's commitment to excellence and its pivotal role in enhancing agricultural productivity worldwide. As of the latest tally, the FMTTI has tested over 184 machines, setting a benchmark for quality assurance within the agricultural machinery industry. This impressive figure underscores the center's pivotal role in ensuring that farmers have access to cutting-edge equipment that maximizes efficiency, minimizes environmental impact, and upholds safety standards. Moreover, the FMTTI's contributions extend beyond mere numbers. Through its comprehensive testing protocols, the center has facilitated groundbreaking advancements in agricultural technology. By identifying areas for improvement and verifying performance metrics, the FMTTI has spurred innovation, driving the development of more efficient, sustainable, and user-friendly farm machinery.

Furthermore, the FMTTI's efforts have reverberated across the agricultural sector, yielding tangible benefits for farmers, manufacturers, and consumers alike. By certifying the reliability and efficacy of farm machinery, the center instills confidence in agricultural stakeholders, fostering trust in the products they rely on to feed communities and sustain livelihoods.

In essence, the achievements of the Farm Machinery Testing and Training Institute stand as a testament to its unwavering dedication to advancing agricultural technology. With each machine tested, the center not only upholds the highest standards of quality and safety but also paves the way for a more productive, sustainable, and resilient agricultural future.

### Year (2013-14)

Item	Number of Machine tested
<b>Tractor Drawn/Operated Implements/Equipments</b>	
Mould board plough	03
Cultivator	02
<b>Engine Operated</b>	
Brush Cutter	04
<b>Total</b>	<b>09</b>

### Year (2014-15)

Item	Number of Machine tested
<b>Tractor Drawn/Operated Implements/Equipments</b>	
Baler	03
Rotavator	01
<b>Engine Operated</b>	

Brush Cutter	02
Power weeder	01
Power reaper	01
Chain saw	01
<b>Total</b>	<b>09</b>

**Year (2015-16)**

<b>Item</b>	<b>Number of Machine tested</b>
<b>Tractor Drawn/Operated Implements/Equipments</b>	
Baler	01
Shredder	01
Mini Thresher	01
<b>Engine Operated</b>	
Power weeder	01
Mini Harvester	01
Tree Pruner	01
Brush cutter	01
<b>Total</b>	<b>07</b>

**Year (2016-17)**

<b>Item</b>	<b>Number of Machine tested</b>
<b>Tractor Drawn/Operated Implements/Equipments</b>	
Mould board plough	01
Disc plough	01
Cultivator	10
Ridger	01
Rotavator	11
Bed former	01
Hay rake	01
Baler	03
Leveller	01
Shredder	01
Bund former cum surry ridger	01
<b>Total</b>	<b>32</b>

**Year (2017-18)**

<b>Item</b>	<b>Number of Machine tested</b>
<b>Tractor Drawn/Operated Implements/Equipments</b>	
Mould board plough	03
Rotavator	03
<b>Engine Operated</b>	
Brush Cutter	03
<b>Total</b>	<b>09</b>

**Year (2018-19)**

Item	Number of Machine tested
<b>Tractor Drawn/Operated Implements/Equipments</b>	
Rotavator	01
<b>Engine Operated</b>	
Power weeder	01
Chaff cutter	02
<b>Total</b>	<b>04</b>

**Year (2019-20)**

Item	Number of Machine tested
<b>Tractor Drawn/Operated Implements/Equipments</b>	
Mould board plough	01
Baler	01
Rotavator	02
Hay rake	01
<b>Engine Operated</b>	
Power weeder	01
<b>Total</b>	<b>06</b>

**Year (2020-21)**

Item	Number of Machine tested
<b>Tractor Drawn/Operated Implements/Equipments</b>	
Baler	02
Climber (Hand tools)	01
<b>Total</b>	<b>03</b>

**Year (2021-22)**

Item	Number of Machine tested
<b>Tractor Drawn/Operated Implements/Equipments</b>	
Mould board plough	02
Seed cum fertilizer drill	05
Rotavator	18
Rotopuddler	03
Laser land leveler	02
Super seeder	14
Multicrop Planter	05
Bund Forming	01
Thresher	04
Battery operated Brush Cutter	01
Baler	01
<b>Total</b>	<b>56</b>

**Year (2022-23)**

Item	Number of Machine tested
<b>Tractor Drawn/Operated Implements/Equipments</b>	
Mould board plough	04
Seed cum fertilizer drill	03
Rotavator	10
Rotopuddler	01
Weeder	01
Super seeder	01
Broad bed furrow Planter	02
Bund Forming	02
Thresher	10
Straw reaper	01
Baler	04
Winnower (Motor Operated)	01
Cultivator	03
Hay rake	01
Blade Harrow	01
Surry Ridger	01
Combine tillage tool	01
Cage wheel	02
<b>Total</b>	<b>49</b>

**Year (2023-24)**

Sl. No	Machine Name	No. of Machine tested
<b>Tractor Drawn/Operated Implements/Equipments</b>		
1	Plant Topper/Trash shredder/Mulcher	1
2	Deep hiller/ rotary hiller	1
3	Broad bed furrow planter	1
4	Rotary tiller	19
5	Offset disc harrow	1
6	Seed cum fertilizer drill	1
7	Maize thresher	1
8	Laser land leveler	1
9	Root crop windrower	1
10	Fertilizer broadcaster/spreader	1
11	Cultivator	3
12	Corn chopping harvester	1
<b>Machines</b>		
13	Cardamom Polishing machine	1
14	Cardamom Washing machine	1
<b>Hand tools</b>		

15	Hand push planters/dibbler	3
16	Coconut climber	3
17	Wheel barrow	7
18	Rubber tapping machine	2
	<b>Total</b>	<b>51</b>

## **2) Upgradation of Farm Machinery Testing Centre to Farm Machinery Testing and Training Institute**

After careful consideration and planning, the RF on Farm Machinery Testing Centre (FMTC) of KAU, KCAET, Tavanur is upgraded to Farm Machinery Testing and Training Institute (FMTTI). This transition signifies our commitment to not only ensuring the quality testing of farm machinery but also to provide comprehensive training and education in this field. The decision to expand by include training and education has been prompted by the growing demand for skilled professionals in the agriculture sector. By establishing FMTTI, aim is to bridge the gap between industry needs and the availability of qualified personnel proficient in the operation, maintenance, and management of modern farm machinery. The institute also plays a crucial role in promoting the adoption of innovative agricultural technologies. By testing new machinery and training farmers in their use, the institute helps accelerate the integration of cutting-edge technologies into everyday farming practices. This process not only improves the overall efficiency and sustainability of farming operations but also encourages manufacturers to innovate continually. The feedback loop created by the institute's testing and training activities provides valuable insights to machinery developers, guiding the evolution of more user-friendly and effective farming tools.

## **3) Enhancing Agricultural Efficiency through Advanced Testing Instruments, Machines and Software**

The Farm Machinery Testing and Training Institute (FMTTI) has significantly advanced agricultural productivity and efficiency through its comprehensive testing and training programs, underpinned by state-of-the-art testing instruments, advanced machinery, and cutting-edge software. The institute's array of testing instruments ensures that all agricultural equipment meets rigorous standards for performance, safety, and durability. By employing modern machinery, the FMTTI facilitates hands-on training for farmers and technicians, promoting familiarity with the latest technological advancements. Furthermore, the incorporation of new software tools like ANSYS Mechanical has revolutionized data collection and analysis. This holistic approach not only enhances the reliability and effectiveness of farm machinery but also equips stakeholders with the knowledge and skills needed to implement best practices in modern farming. Consequently, the institute's initiatives have contributed to increased agricultural productivity, reduced operational costs, and greater sustainability in farming practices.

<b>Sl. No.</b>	<b>Name of Instrument/Test Rig/softwatre</b>	<b>Quantity</b>
1.	Vernier caliper Range: 150mm, 300mm	3
2.	Micrometer Range:25mm,50mm	3
3.	Spirit level Range:150mm	1
4.	Digital stop watch	5
5.	Mechanical stop watch	5
6.	Tachometer digital hand held contact & contact model	2
7.	Digital balance capacity Range: 3 kg, 6Kg	2
8.	Spring balance Range: 50kg	1
9.	Digital Soil Moisture	2
10.	Bulk density apparatus digital	1
11.	Tractor(65hp,55hp)	2
12.	Vibration meter model	1
13.	Sound level meter model	1
14.	Rockwell cum Brinell combined hardness tester	1
15.	Tool kit Make: Bosch	1
16.	Digital Vernier caliper Range:150 mm, 300mm	3
17.	Measuring tape Range: 3 mtr, 5 mtr,30mts, 50 mts	4
18.	Digital laser length measuring instrument Range 30mtr	1
19.	Digital Angle measuring instrument	1
20.	Spectrometer/Chemical Composition Analyzer Make: Spectra plus	1
21.	Energy Meter Single Phase	1
22.	Anemometer	1
23.	Steel ruler Range -300mm, 600mm, 1000mm	3
24.	AC	2
25.	Weighing machine(500kg capacity)	1

26.	Digital coating thicknesses gauge	1
27.	Computer Processor-i7, i3	3
28.	Colour Printer	2
29.	Mist blower Test rig Make- LAB INC	1
30.	Spray patentor Make- LAB INC	1
31.	ANSYS MECHANICAL (software)	1

#### 4) Financial Benefits of Farm Machinery Testing and Training Institute

The Farm Machinery Testing and Training Institute achieve significant financial benefits through a diverse range of profit-generating activities. These include machinery testing and certification fees, income from training programs and workshops, consultancy services, and collaborative projects. This multifaceted approach ensures the institute's financial sustainability and allows it to continue providing valuable services to the agricultural community.

Year	Income(Rs.)	Expenditure(Rs.)
2015-16	14,51,578	5,68,043
2016-17	4,43,401	9,17,263
2017-18	6,14,133	8,51,939
2018-19	6,31,141	7,29,988
2019-20	5,56,859	7,15,095
2020-21	31,97,060	7,96,895
2021-22	57,00,199	20,86,437.50
2022-23	86,86,400	10,01,324
2023-24	1,25,30,701	46,38,037







